

VIRGINIA EAGLES

Official Newsletter of The Virginia Aeronautical Historical Society

October/November/December 2009

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Shazam!, The Spin Master, and The Premiere Pungo Pilot



**Will Be Inducted into the Virginia Aviation Hall of
Fame on November 14, 2009**

VIRGINIA EAGLES
the official newsletter of the



**VIRGINIA AERONAUTICAL
HISTORICAL SOCIETY**

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Is Calling..... YOU!**

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Shirt Size: M-LG-XL-XXL

Add your spouse for \$15 more!

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Contact us by mail at:
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5701 Huntsman Road
Richmond International Airport, VA 23250-2416

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Telephone (804) 222-8690

Approaches by Air AI

On Guard

The Virginia Air National Guard has left Richmond International Airport and moved what used to be the 192nd Fighter Group, now 192nd Fighter Wing



Keynote Speaker Maj. Gen. Robert B. Newman, Jr., Adjutant General of Virginia

various types of fighter aircraft were based and flown, mostly by Virginians, for the Air Force Reserve in defense of our country. On July 18, 2009 that service, that location and that dedication to duty were all recognized by the unveiling of a Department of Historic Resources marker now placed in a prominent place in front of the Virginia Aviation Museum at Richmond International Airport. This recognition effort was spearheaded by Bill Schultz, Chair of our Historic Marker Committee, sponsored by the Virginia Department of Aviation, researched by Jim Caiella and attended by the right people to receive the appreciative remarks.

At the unveiling ceremony, James Barrett, of the Virginia Department of Transportation, spoke of the Marker Program on behalf of the Department of Historic Resources. Randy Burdette, of the Virginia Department of Aviation, added his observations from his unique perspective. Supervisor Jim Donati, of the Varina District of the County of Henrico, discussed the local impact of having the Air National Guard at his end of the County and serving all Virginians.

The keynote speaker was Major General Robert B. Newman, Jr., the Adjutant General of

Virginia, who served as a fighter pilot with the 192nd Fighter Group. He spoke of the history of service of the USAF Reserve and its status today. He honored the occasion by attending with other Air National Guard representatives and with a thoughtful presentation of the missions of the Virginia Air Guard. He also has now joined the VAHS. Look to hear more about Major General Newman in the future. This was his first trip to the Virginia Aviation Museum.



Randall Burdette, Director of the Department of Aviation, and Maj. Gen. Newman unveiling the new marker

The VAHS owes special thanks to the Brinks Company and Frank and Alice Lennon, who sponsored the reception that followed the ceremony. All of the speakers (and the Lennons) were presented with a copy of *Virginia Airports – A Historical Survey of Airports and Aviation from the Earliest Days*. It was a crisp, inspirational and meaningful Saturday in Virginia. We were especially pleased to

also have in attendance Colonel Carl Bess, a former member of the 192nd Fighter Wing, Colonel Zane Johnson, the Vice Commander of the 192nd Fighter Wing, Lieutenant



(L to R) Randall Burdette, Varina Supervisor Jim Donati, Maj. Gen. Newman, VAHS Chairman Al Orgain, and VDOT Representative Jim Barrett

Colonel Carl Bess, a former member of the 192nd Fighter Wing, Colonel Zane Johnson, the Vice Commander of the 192nd Fighter Wing, Lieutenant

Colonel Debbie Magaldi, the public affairs officer for state headquarters of the Virginia National Guard, Jon Mathiason, the President and CEO of the Capital Region Airport Commission and, in particular, Brigadier General Charles Smith, the Assistant Adjutant General for Air for the Commonwealth of Virginia.

Bill Schultz did another splendid job while Jen Melton put it all together with a program of events and organized the refreshments provided by the Brinks Company. Tell us who you want to honor or remember next.

Shazam!, Premiere Pungo Pilot, and the Spin Master

On November 14, 2009, our Society will recognize the aviation accomplishments of another trio of diverse Virginia aviators. Just to give you a taste of what is in store for you, the following thumbnail sketches should get you there:

Shazam! Philip W. Brown

He may not wear a cape and have a lightening bolt on his chest like Captain Marvel, but he should since this NASA, Navy trained, engineering test pilot can claim the record for the most intentional penetrations into lightning and thunderstorms than any other. The NASA Storm Hazards Program, headed by Virginia Hall of Famer Norm Crabill, was one of many



Philip W. Brown

significant programs Phil participated in after combat flying over North Vietnam. During his 27 years at NASA, following engineering degrees from Georgia Tech and Princeton, he flew 6,809 hours in fighters, helicopters and GA aircraft. He

produced research that crossed a wide spectrum of areas from the ecological impact of space shuttle exhaust, to the spray efficiency of agricultural aircraft, to controllability of jet fighters under differing unusual altitudes. He received one of NASA's highest awards in 1995 when the NASA Exceptional Service Medal was conferred on him.

Premiere Pungo Pilot: A. M. Stevens

Having soloed at 16 and earned his civilian wings "Steve" enlisted in the Navy and began what was to be a life long career in aviation. He learned the mechanical skills in the Navy and on the way to being a Senior Chief Aviation Machinist Mate became the aviation leader and teacher at South Norfolk Airport. He ran the Airport (from 1972-1985) and the flight



A. M. Stevens

school and pioneered the use of independent contractor/instructor pilots allowing them freedom to teach while setting the standard and fees to be used. He had as many as 18 airplanes engaged in flight training, forest patrols and traffic observation.

Along the way he started (in 1974) the banner-towing business that moved to Atlantic Air Park in Pungo when South Norfolk closed. That business is on-going at the 5,000 foot strip in Pungo today.

The Spin Master: James M. Patton, Jr.

Jim Patton had to convince his employer, NASA, to turn its resources away from space and that it was an important project to do research on stall/spin characteristics of light GA aircraft. He succeeded in getting the funding and produced over a period of 13 years a body of research that has made GA flying safer. This has been evidenced through the teaching

of anti-spin techniques, spin avoidance and spin recovery methods based on his findings. This was ground breaking research as the data had not been gathered before. For this work, and based on his other accomplishments at NASA, he was awarded in 1978 the coveted Iven C. Kincheloe Award for outstanding professional accomplishment in the conduct of flight testing.



James M. Patton, Jr.

Got Projects?

In previous *Virginia Eagles*, I have urged our membership to let us know how we can best fulfill our mission by preserving Virginia aviation history into the future. That mission also is connected with efforts that can be made now to make aviation a part of the lives of the people of Virginia. Give us your ideas.

On-going projects include a documentary promotional video entitled "*Low and Slow Over Virginia*," and we are also working on a compilation of flying experiences from our membership. We hope these stories will be a book. Please send your reminiscences of flying and/or war time experiences to David Hahn at P.O. Box 546, Sandston, Virginia 23150. His telephone number is 804-399-7426 and his e-mail address is c7eca@aol.com.

Second Ring

As I write this column, I anticipate that in less than one week, I will be in Reno, Nevada on a business trip. This trip was timed so that the Reno Air Races would be in session and one of my personal life long ambitions of attending such races would be fulfilled. This is the second ring of my own Aviation Trifecta. I

have been to Oshkosh, now the Reno Air Races, next will be Sun'n Fun. The races begin on September 15, 2009 with the finals concluding on September 20, 2009. If I am lucky (and get the business done), Jan will join me on Friday, September 18th and we will attend the two concluding days of the event on Saturday and Sunday.

Aside from the Blue Angels, who will be performing for the first time in nine years, the races this year feature, in honor of 100 years of air racing, LiveAirShowTV streaming on-line, pay-per-view coverage. This is in connection with an effort by the Reno National Championship Air Races to make the experience available to those who can not attend in person. It is being broadcast as a pay-per-view event. For more information, go to www.LiveAirShowTV.com. I do not know if the event will be on TV after the live broadcast is done.

Look for a report on The Reno Air Races from me in a following newsletter. I am sure that I will have more to say. Indeed, I have just been informed that ten Virginians of some note in aviation circles in the Commonwealth will also be in attendance.

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Richmond, Virginia 23218-1998

The Virginia Aviation Hall of Fame 2009 Induction Ceremony and Dinner



On November 14, 2009 members of the Virginia Aeronautical Historical Society and their guests will gather to honor three Virginians who have made significant contributions to aviation and aerospace in the Commonwealth and the Nation. This year the VAHS honors Philip W. Brown, James M. Patton, Jr. and A.M. Stevens at the annual Virginia Aviation Hall of Fame reception, dinner and induction ceremony at the Virginia Aviation Museum.

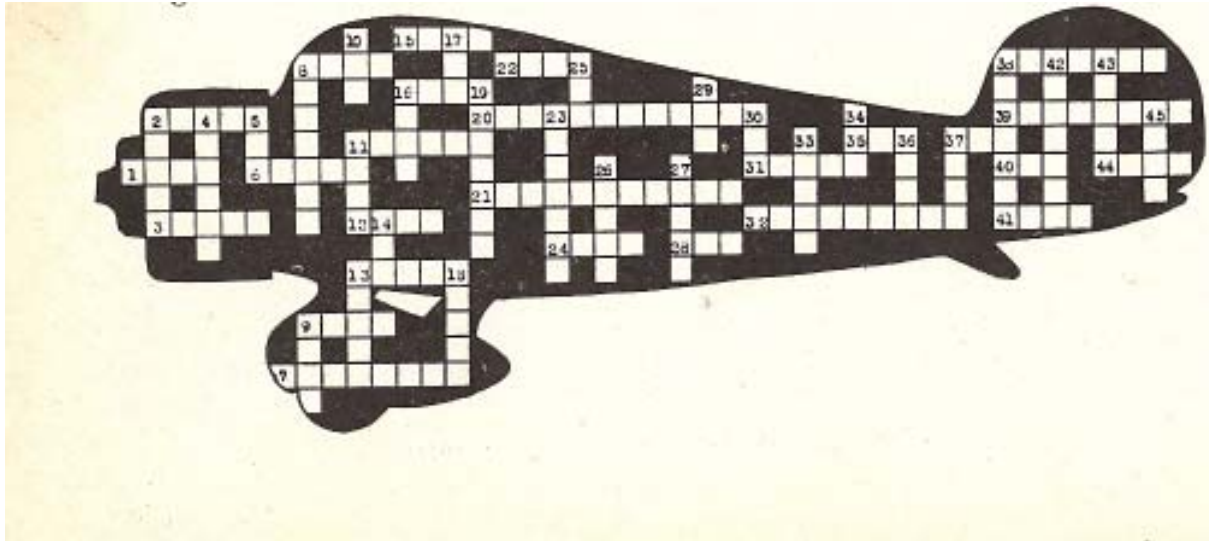
The evening will begin with a cocktail reception at 5:00 p.m. where guests can meet this year's inductees as well as current members of the Virginia Aviation Hall of Fame. The reception will feature a full open bar complimented with a varied selection of hors d'oeuvres. A formal dinner will follow the reception and will begin with a salad of mixed greens and vegetables. The evening's entree choices will be Prime Rib of Beef or Salmon En Croute. Dessert will be a peach and vanilla ice cream filled crepe drizzled with melba.

The Virginia Aviation Hall of Fame induction ceremony will follow the dinner.

Advance reservations for the evening are required and VAHS members will be receiving their invitations in the mail prior to October 10. Non members may make reservations through the Virginia Aeronautical Historical Society office. Tickets are \$50.00 for VAHS member and \$60.00 for guests. Sponsor tables seating 8 are available for \$600.00. Seating is limited to 250 persons.

Crossword Puzzle

Here's another one to try your hand at. This puzzle was originally printed in Popular Aviation in June 1936. Answers are on page 16.



Another Aviation Cross Word Puzzle by SIDNEY PERLMAN

YOU will find this second airplane puzzle more difficult than the first of the series, which appeared in the April issue. We don't say this to discourage you, but rather to put you on your guard against some of the unusual trick words.

We believe that this series of puzzle pictures is proving quite popular with our readers and, just as a suggestion, it would be well for you old readers to look up the words in the Glossaries of Words, Terms and Phrases, published previous to August, 1935. They contain all but three words in the puzzle.

Just to give you a good start and to help unlock the situation, we will give you the word in 2 across. It is "chord." The correct answers to this puzzle will be found in the next issue.

ACROSS

1—Dirigible is fastened to it, after landing.

- 2—Width of airplane wing.
3—A fitting for attaching control surface.
6—Solid wire.
7—Method of covering wings.
8—Gas section of an airplane.
9—Main member of wing.
11—Curvature of the wing.
12—Maneuver where plane turns completely over.
13—To ascend.
15—That which causes a plane to rise.
16—Put over wheel for streamline.
20—Airplane with flapping wings.
21—Science of aerial navigation.
22—Nat. Advi. Com. for Aero (Abbr.)
24—Maneuver in which plane revolves.
28—Pilot's term for throttle.
31—A non-rigid airship.
32—Manner of generating electric current.
35—Aerial Experiment Association.
37—A short flight.

(Concluded on page 467)

Puzzle

(Continued from page 412)

- 38—Control surface on wing.
39—The act of turning.
40—Part of seaplane.
41—To turn on an incline.
44—Type of wing rib.
- DOWN
- 2—Aircraft meeting in battle.
4—Navigation instrument.
5—Nose down sharply.
8—Instrument that indicates direction.
9—One set of cylinders.
10—Take to the air.
11—Engine covering.
13—Pilot's term for airplane.
14—A lubricant.
16—Part of the oil system.
17—Stationary section of tail assembly.
18—One of the wings of a propeller.
19—Very strong wind storm.
23—Nearest the fuselage.
25—Toward the tail.
26—A stranded wire.
27—Main support of airplane in flight.
29—Airplane license.
30—That which gives a wing its shape.
33—Nickname of a famous flyer.
34—Strip used to hold rib together.
36—Opposite drag wires.
37—Control wire fittings.
38—Landing field.
42—Sideways.
43—Proportion.
45—Shock absorber.

Happy Puzzling!



Virginia Aeronautical Historical Society

**Annual Auction and
Spring Party**

Saturday, April 17, 2010

5:30-9:00 p.m.

Virginia Aviation Museum

Lots of wonderful Auction Items!

A Fun time!!!

Lots of Door Prizes!

Open Bar and Heavy Hors D'oeuvres

Tickets are \$15.00

Call **Jennifer Melton** at (804) 222-8690 or email her at vahs@smv.org to purchase tickets or donate items.

Mark your calendar for April 17th!!

The Virginia Aeronautical Historical Society will again hold its Annual Spring Party and Fund Raising Auction on Saturday evening April 17, 2010 from 5:30 – 9:00 p.m. at the Virginia Aviation Museum.

With your help and support this event has become the premiere aviation social event of the year. In 2009 over 200 members and guests enjoyed an evening filled with food and fun while providing much needed support for the programs of the VAHS. This event is open to everyone, not just VAHS members, so plan to bring a guest to enjoy the open bar, heavy hors d'oeuvres and some friendly bidding competition during our silent and live auctions. Again this year, for your enjoyment, we have the privilege of presenting “Fast Tongue Al”, aviation’s finest auctioneer, as he provides both entertainment and excitement during the voice auction portion of the evening. You do not want to miss this spectacle!

Tickets for the evening are \$15 per person and include the open bar and heavy hors d'oeuvres plus a raffle ticket for a chance to win several door prizes. Tickets are available from Jennifer Melton at the VAHS office 804-222-8690.

We are off to a great start with some fabulous items up for bid but we still need your help in soliciting or providing donations for the auction. Aviation related items are great but any type of item is welcome for our auction. Last year through your support we raised a record amount to support the VAHS in its mission to preserve Virginia’s rich aviation history and we hope we can count on you this year for a donation.

Contacts for auction donations or questions are:

Scott Gross: j3cub@cox.net

Charlie Williams: cw4cjw2@aol.com

Tom Woodburn: wacoc5@verizon.net

VAHS office 804-222-8690, vahs@smv.org

Give us a call if you need help transporting a donated item. We request that all donated items be at the museum by April 17, 2010. All donations are tax deductible. Receipts will be provided.

Thank you for supporting The Virginia Aeronautical Historical Society.

Calendar of Events

October 3, 2009

Wings, Wheels, and Ducks, produced by the Rotary Club of Stafford, will take place from 10:00 a.m. - 4:00 p.m. at the Stafford Regional Airport. Airplanes on display, car show, and additional events. For more information visit www.staffordrotary.org.

October 3, 2009

Airport Appreciation Day at Hampton Roads Executive Airport. Fly-in or Drive-in. Music and Food. Dealers from Cirrus, Piper, Cessna, Mooney, CT LSA Diamond, Robinson Helicopters, and Schweizer. Flight School representatives will answer questions about learning to fly. Northeast Bonanza Group Fly-In and Lancair Owners Fly-In will also take place. For more information contact Steve Fox at (757) 373-3151.

October 3, 2009

SR-71 Forum at the Virginia Aviation Museum in Richmond. Once highly classified, the secrets of the legendary SR-71 Blackbird are revealed. The SR-71 Blackbird is the fastest, highest flying manned production jet on the planet. Hear experts separate reality from the rumors surrounding this legendary aircraft. This year we are pleased to have added to the program Dr. David Robarge (Senior Historian, CIA) who will be presenting on the Agency's A-12 Operations. Tour the cockpit (weather permitting) and more! Program is free with paid museum admission. Reservations suggested. Call (804) 236-3622 or e-mail: dreisenwitz@smv.org

October 3-4, 2009

EAA Chapter 186 Fall Fly-In will be held at Winchester Regional Airport.

October 5, 2009

Aviation Safety Seminar at Virginia Tech Airport, 1601 Tech Center Drive, sponsored by the Virginia Department of Aviation and AOPA Air Safety Foundation. Speaker Kurt Reesman will discuss "What Went Wrong." For more information contact

Mike Lauranzon at (804) 236-3639, ext 128 or Virginia Tech Airport at (540) 231-4444.

October 6, 2009

Aviation Safety Seminar at Danville Regional Airport, General Aviation, 424 Airport Drive, sponsored by the Virginia Department of Aviation and AOPA Air Safety Foundation. Speaker Kurt Reesman will discuss "What Went Wrong." For more information contact Mike Lauranzon at (804) 236-3639, ext 128 or General Aviation, Inc. at (434) 793-7033.

October 7, 2009

Aviation Safety Seminar at the Virginia Aviation Museum, Richmond Int'l Airport, 5701 Huntsman Road, sponsored by the Virginia Department of Aviation and AOPA Air Safety Foundation. Speaker Kurt Reesman will discuss "What Went Wrong." For more information contact Mike Lauranzon at (804) 236-3639, ext 128 or the Virginia Aviation Museum at (804) 236-3622.

October 8, 2009

Aviation Safety Seminar at the Virginia Air and Space Center, 600 Settlers Landing Road, Hampton, sponsored by the Virginia Department of Aviation and AOPA Air Safety Foundation. Speaker Kurt Reesman will discuss "What Went Wrong." For more information contact Mike Lauranzon at (804) 236-3639, ext 128 or the Virginia Air and Space Center at (757) 727-0900.

October 8-11, 2009

"Let Freedom Ring" - A Salute to American Veterans will be held from 8:00 a.m. - 6:00 p.m. at Lonesome Pine Airport in Wise, Virginia. Warbird fly-in and historical and contemporary military displays honoring veterans and remembering the 65th anniversary year of the D-Day invasion. The C-54 Flying Museum of the Berlin Airlift Historical Foundation will be on display for tours. Camping is free. Fuel discounts for warbirds. For more information contact Bob Spera at (276) 328-5300 or

liberty@mounet.com or visit
www.libertyflyingservice.com.

October 10, 2009

10th Annual Culpeper Air Fest will be held from 10:00 a.m. - 4:00 p.m. at the Culpeper Regional Airport. Static displays, Flying Circus (from Bealeton), warbird flyovers, wingwalker, Young Eagles flights, and all kinds of aircraft. Food vendors. Fun for the entire family and free admission.

October 10, 2009

Twin County Airport Air Fair including a fly-in, drive-in with food, Young Eagles Rally, and the dedication of a plaque in honor of Emily Gile, a World War II WASP who was instrumental in forming EAA Chapter 1426.

October 13, 2009

Fourth Annual Aviation Education Expo will be held at Winchester Regional Airport. Find out about aviation career opportunities, talk with professional pilots, and try out a flight simulator. AOPA Flight Training Deputy Editor Ian Twombly will give a presentation at the free event, which runs from 10 a.m. to 2 p.m. and includes lunch. Students can participate in a treasure hunt and win prizes by finding the answers to questions as they visit each booth. Other speakers at the event include 25-year-old aerobatic pilot, aviation educator, and FAA safety ambassador Jamail Larkins; customs agents; and a chief pilot for a corporate flight department. Check out photos of last year's event at the Web site. Reserve a seat by Sept. 29. RSVP to Julie O'Brien at 877/PROJET1 or Julie@ProJetAviation.com.

October 17, 2009

EAA Chapter 1442 Fly-In, Drive-In will be held from 9:00 a.m. - 5:00 p.m. at the William M. Tuck Airport in South Boston. Antique/classic aircraft and cars, motorcycles, powered parachutes, ultralights, homebuilt and radio controlled aircraft, good food, and fun for everyone. Free admission. For more information e-mail ldcollie@verizon.net or dane.skelton@yahoo.com

October 17-18, 2009

NAS Oceana Air Show will take place at Naval Air Station Oceana in Virginia Beach.

October 17-18, 2009

Lunenburg County Airport (W31) presents "Free Brunswick Stew and Chili" from 11:00 a.m. to 3:00 p.m. Includes brunswick stew and chili, with all the fixings, and beverages in appreciation to the flying community. RSVPs requested but not required. For more information email w31airport@embarqmail.com or call Michael Cocker, Airport Manager at (434) 696-4624 or (804) 840-3200. 100LL fuel available (cash or check).

November 14, 2009

Virginia Aviation Hall of Fame Induction Ceremony will be held at the Virginia Aviation Museum. Reception begins at 5:00 p.m. This year's inductees are Philip W. Brown, James Patton, and A.M. "Steve" Stevens. Tickets are \$50 for VAHS members, \$60 for non-members. For more information contact Jennifer Melton at (804) 222-8690 or vahs@smv.org.

December 12, 2009

2009 Toy Airlift, sponsored by the Virginia Chapter Ninety-Nines, will be held at Chesterfield County Airport, from 8:00 a.m. - 4:00 p.m. For more information contact Betty Vinson, Event Coordinator, at (804) 720-1132 or bettyvinson@verizon.net

Ongoing Events

Pancake Breakfast at Franklin Municipal Airport takes place the fourth Saturday of each month (from 8:00 - 11:00 a.m.). Sponsored by EAA Chapter 1377 and Old Dominion Squadron CAF. For more information call (757) 562-8764.

Fly-In 2009 at Twin County Airport (KHLX) will take place the second Saturday of every month April through October. Everyone is welcome for food, drinks, and fellowship. Food served from 11:00 a.m. - 2:00 p.m. All proceeds go to Local EAA Chapter 1426. For more information contact Brian Sutphin (276) 733-4198. flyer

Pancake Breakfast at Mecklenburg-Brunswick Regional Airport takes place the first Saturday of each month (from 8:00-10:00 a.m.). Breakfast and social hour with regularly scheduled live presentations by FAA and/or NTSB. Sponsored by Mecklenburg-Brunswick Regional Airport and The Club/Lake Gaston Resort. For more information contact (434) 729-2591 or AVCAirport@buggs.net

Soup-on-Sunday at Campbell Field Airport (9VG) on the Eastern Shore of Virginia will take place each Sunday from noon-3:00 p.m. For more information visit the website or contact Gordon Campbell at (757) 442-7519.

Friends of the Petersburg Pilots Association holds a breakfast from 8:00-10:00 a.m. the third Saturday of each month at the Dinwiddie County Airport. For more information call (804) 861-9915.

Lonesome Pine EAA Chapter 1416 invites pilots and guests to attend free "Hotdogs & Hangar Talk" beginning at 11:00 a.m. the third Saturday of each month at Lonesome Pine Airport (follows the EAA Chapter Meeting at 10:00 a.m.). For more information contact Bob Spera, Director, Liberty Flying Service, (276) 328-5300 or liberty@mounet.com or visit www.libertyflyingservice.com.

Flying Circus Airshow (Open every Sunday, May through October) including precision aerobatic and formation flying, wing walking, hot air ballooning, skydiving, and antique open cockpit airplanes. Biplane rides are available before and after every show. Gates open at 11:00 a.m. Show starts at 2:30 p.m. \$10.00 for adults and \$3.00 for kids. Group rates available. Concession stand, picnic grounds, gift shop. Picnic pavilion available for party rental. The Flying Circus Aerodrome is located at Rte. 17 and Rte. 644 (Richie Road) in Bealeton, Virginia. For more information visit www.flyingcircusairshow.com or call (540) 439-8661.

Regular Meetings:

Virginia Aeronautical Historical Society - Northern Neck-Middle Peninsula Chapter meets at the Pilot House, Hummel Field, in Topping, Virginia in the "Eagle's Nest" at 12 Noon on the third Thursday of each month unless otherwise posted. Pilots can fly-in and park at the door of the restaurant. Visitors are welcome at these luncheon meetings. There is an interesting speaker from the field of aviation each month. Come visit the "Eagle's Nest" at any time and see the collection of aviation art and other memorabilia.

Williamsburg Chapter of the Virginia Aeronautical Historical Society meets the 3rd Wednesday of each month at the Williamsburg-Jamestown Airport in the upstairs meeting room at 10:00 a.m. Call (757) 229-1597 or (757) 220-9115 for information.

Ninety-Nines - Hampton Roads Chapter meets the first Monday of each month at 7:00 p.m. alternating between Newport News-Williamsburg Airport and Norfolk International Airport. For more information, contact Linda Mathias (757) 242-3491 or Edith Fischer (757) 877-4127.

Ninety-Nines - Shenandoah Chapter meets the third Sunday of each month at 2:00 p.m. at the Shenandoah Valley Regional Airport. All women pilots and student pilots are welcome. Contact Sara Fultz (540) 896-9842 or Jackie Estes (540) 347-5679, to confirm meeting date in the event of late changes.

Ninety-Nines - Virginia Chapter meets the third Saturday of each month at various airports around the state. All women pilots and student pilots are invited to attend. For more information call Betty Vinson (804) 541-0590 mornings, (804) 732-1833 afternoons and evenings or e-mail: bettyvinson@firstsaga.com.

Peninsula Airport Commission Meetings are held the third Thursday of every month beginning at 8:00 a.m. in the Commission Room at the Newport News-Williamsburg International Airport. The meeting is open to the public.

Wingnuts Flying Club meets on the first and third Tuesday of each month at 7:00 p.m. in the Chesterfield County Airport terminal building. See the web site at www.wingnutsflying.com.

Civil Air Patrol - the Newport News Composite Squadron of the Civil Air Patrol meets every Tuesday evening at 6:30 p.m. at 904 Bland Blvd on the grounds of the Newport News-Williamsburg International Airport. All aviation enthusiasts interested in search-and-rescue and young people ages 12-18 interested in the Cadet Program are invited to join. For details visit www.vawg.cap.gov/newportnews

Civil Air Patrol - Leesburg Composite Squadron of the Civil Air Patrol - Adult members meet the first and third Tuesday of the month and cadet members meet every Tuesday at 7pm at the Leesburg National Guard Armory. We welcome anyone interested in Search & Rescue and aviation. Details and directions at: www.leesburgcap.org

Shenandoah Valley EAA Chapter 511 meets at 7:30 p.m. on the third Tuesday of each month at the Shenandoah Valley Regional Airport. For more information visit www.geocities.com/ea511va.

Experimental Aircraft Association (EAA) Chapter 231 meets at 7:00 p.m. on the second Wednesday of each month at the rear of the Virginia Aviation Museum (except for February which is designated for the Annual Dinner). For more information and to confirm meeting date and time visit www.eaa231.org.

The Orange County Airport Boosters Association, Inc. (OCABA) holds its monthly organization meeting on the first Saturday of each month. Welcome to all supporters of Orange County Airport (KOMH). See <http://www.ocaba-omh.org> for more details.

Civil Air Patrol – the Hummel Field Composite Squadron meets each Tuesday evening at 7 p.m. in the FBO Building on the airport. Adult volunteers and young Cadets, ages 12-18, are invited to attend and hopefully join. For more information please call Bert Jones, (804) 580-8120 or Don Johnson, (804) 453-5770.

Tell A Story! Leave Your Mark on Time!

When you look at aviation history you always hear of the big names like Amelia Earhart or Charles Lindbergh. But aviation history is much more than the big names. Our Society's book project is the history of us. We need your stories about things aviation that inspired you, scared you, pleased you, made you learn, made you grateful, history you saw or took part in, non-history you saw or took part in, day-to-day aviation you enjoy. Its all good. Don't think you don't have anything important to say. Don't be afraid of being corny. This is going to be a mosaic of your Society and we need you all to contribute.

For just the effort of putting pen to paper or computerating to the tune of one or two pages you can be immortalized in this book. Bearing in mind the relationship of flying stories to fishing stories, feel free to tell your story your way. To paraphrase Neil November, Chairman Emeritus, "Don't let the facts get in the way of a good story!" Whatever you write you will be able to tell your friends you are published! Most importantly, we get a good cross section of civil and military flying experiences of our membership and commit it on paper for the ages.

The brave souls that have responded to the call as this newsletter goes to print are: Ken Rowe, Edison Vail, Tom Tyndall, Debbie Sterling and Ray Tyson.

We need many more stories. Please add your name to this list. We will post additional names to this list in the next newsletter.

Send your paper contributions to:

VAHS Book Project Stories
5701 Huntsman Road
Richmond, Va. 23150

Send your e-mail contributions to vahs@smv.org
attention Jen Melton

David C. Hahn
Chairman, Archives/Collections Committee

Chapter News

Northern Neck/Middle Peninsula

Contact:

Cary L. "Doc" Broadway – President
P.O. Box 32
Merry Point, Virginia 22513
(804) 462-0319
e-mail: docnsue1938@earthlink.com

Meetings are held the 3rd Thursday of each month at the Pilot House Restaurant in Topping, Virginia at 12:00 p.m.

The Northern Neck/Middle Peninsula Chapter holds its monthly luncheon every Thursday at 11:30 a.m. at Hummel Field in the Middle Peninsula. On September 16th, in place of our normal speaker program, we used a DVD on the Duxford Royal Air Force Base, which is the RAF Restoration Facility and the fairly new American Air Museum, which is a visit for all who are interested in aviation history. The chapter is scheduling a trip to the Hampton Air and Space Museum and the Langley Air Park on October 16th. We'll take a stand-down in December, and will continue our luncheon schedule in January. We will welcome any member from our sister chapters to visit us for the luncheon and, for those who are willing to share a piece of their personal history, you'll get a FREE LUNCH!!!!

Cary "Doc" Broadway
President
804-462-0319

Northern Virginia Chapter

Contact:

Bill Schultz – Chapter Development
Chairman
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Williamsburg "Eagles" Chapter

Contact:

Phil Brown – President
114 Walnut Hills Drive
Williamsburg, Virginia 23185
(757) 253-0379
e-mail: williamsburg-aeronautics@cox.net

Meetings are held the 3rd Wednesday of the month at 10:00 a.m. at the Williamsburg Airport.

VAHS Eagles Chapter 2009 3rd Quarter Activity Report

Monthly Presentations

June – Gary Allen, an Eagles Chapter member and retired head of the U.S. Department of Justice Aviation & Admiralty Staff, presented "From Cubs to Space Shuttles: the United States Government in Aircraft Accident Litigation". The investigation into



Marie and Gary Allen

the 1985 crash of Delta flight 191, a Lockheed 1011 attempting to land at the Dallas-Fort Worth Airport, was a unique and precedent-setting event in Gary's

career. For the first time, available ground and onboard airplane sensor data were merged to create a piloted flight simulation of the microburst-induced, wind shear flight conditions the Delta crew encountered. A substantial amount of engineering analysis was utilized to produce a credible simulator.

Using this simulation, useful flight techniques were developed for takeoffs and approaches through wind shears.

Gary also discussed why citizens can't sue the U.S. government if an airplane, military or civilian, crashes into their home, car, person, etc. Fortunately, other avenues are open for injury compensation (per Bill Schultz's memory!). We thank Gary for his explanation of how the Fed tries to stay out of court on injury and loss claims!

July – We enjoyed viewing the DVD, “Little Dieter Needs to Fly”, an exceptional account narrated by Dieter Dengler about his impoverished existence as a German youth during and after WWII; his odyssey to the U.S. where he used great resourcefulness to obtain a college education, citizenship and designation as a Naval Aviator; his capture and imprisonment by the Pathet Lao in S.E. Asia; his harrowing but successful escape and miraculous rescue; and finally, his reintegration into a civilian life curiously shaped by past privations.

August - Cal Moore, a 91 year old WWII Army glider pilot presented “How a Fascination With Wings & Wheels Shaped My Life”. Licensed as a pilot at 16, Cal became Virginia's youngest barnstormer at age 18. By this time he and a friend had rebuilt a



Cal and Margaret Moore

purchased for \$7.50 with body damage and without

N i c h o l a s
Beazley NB-3
airplane from
the parts of
several crashed
planes. The
1927 Chevy of
which he was
eventually so
proud of was

an engine, transmission or tires. Using great resourcefulness and his high level of mechanical aptitude, Cal soon had a driving machine to be admired.

Cal enlisted in the Army at the time their glider program was getting underway. Despite his extensive flight experience, the Army trained him as a truck mechanic. Good sense or luck finally prevailed and a year later, as an Army, glider-wings wearing pilot, he embarked aboard a former French luxury liner for an airfield in England.

Cal participated in glider operations for the Normandy invasion, the invasion of Holland, and the invasion which crossed the Rhine (River). A unique facet of an Army glider pilot's job was becoming a short term infantryman after landing. During the post-landing chaos, in enemy territory, under fire and amidst crashed gliders, these pilots had to find a combat unit to join until they figured out how to get back to a rear staging area for return to their airfields.

Cal's story testifies to the merits of careful observation of one's environment for staying healthy and alive, ingenuity in problem solving, and keeping productively busy in the face of adversity. His solitary journeys through hostile territory back to base were unscripted and largely unassisted. Serendipitous opportunities for improving one's lot had to be taken advantage of. All one's senses needed full employment to avoid danger. Plans never worked out as originally imagined and improvisation was essential. A spare time project at one of Cal's operating bases in France was building a radio. Crystals, wiring and coils were unavailable. Cal used wire and a headset from the radio of a nearby, wrecked German fighter aircraft, a cardboard toilet paper roll, and a Gillette “blue blade” razor blade to make his own working receiver. Another project was the removal from a German FW-

190 fighter of an armored pilot seat which was then installed in Cal's glider prior to crossing the Rhine.

After the war Cal worked for General Motors for many years, supervising the network of dealers in the Eastern half of the U.S. To this day he continues his can-do habits, improving and maintaining his Manassas and Deltaville homes. He remains active in the association of WWII glider pilots and gives presentations and advice to ROTC and Army active duty troops.

September – Buz Rich, one of our chapter's founding members and its first vice-president, reported on aircraft displayed at the 2009 EAA AirVenture fly-in. His photos of significant and unusual aircraft attending were accompanied both by his knowledgeable commentary as well as audience input. Most of us learned more from Buz's account than if we had been there ourselves.

Airborne and Special Operations Museum Trip – A group of chapter members will travel to Fayetteville, NC on September 30th and visit the Airborne and Special Operations Museum there of the morning of October 1st.

Respectively Submitted,
Philip W. Brown, President



*Virginia
Aeronautical
Historical
Society*

SUPPORT THE SOCIETY

Support the VAHS.... Buy a T-shirt or a Polo shirt with the VAHS logo on it....

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hats: \$10.00*

*Contact: Jen Melton,
(804) 222-8690 or e-mail:
vahts@smv.org*

Answers to June Cross-Word Puzzle

WELL folks, here you are. The answers to the airplane cross-word puzzle published in the June issue of POPULAR AVIATION are all yours. We hope you agree with the author.

HORIZONTAL

1. mast	21. aeronautics
2. chord	22. NACA
3. hinge	24. roll
6. piano	28. gun
7. envelope	31. blimp
8. cell	32. induction
9. beam	35. AEA
11. camber	37. hop
12. loop	38. aileron
13. climb	39. rotation
15. lift	40. oar
16. pant	41. tilt
20. ornithopter	44. open

VERTICAL

2. clash	25. aft
4. octant	26. cable
5. dip	27. wings
8. compass	29. ATC
9. bank	30. rib
10. fly	33. Lindy
11. cowl	34. cap
13. crate	36. anti
14. oil	37. horn
16. pump	38. airport
17. fin	42. lateral
18. blade	43. ratio
19. tornado	45. oleo
23. inboard	

Now you can purchase VAHS logo apparel from Lands End!

The VAHS has set up the logo with Lands End and they can put it on virtually anything they have. Just follow the instructions below and you will be on your way!

VAHS Logo garments through Lands End

1. Go to Landsend.com/businessoutfitters
2. Click on "Register" at the top right. You don't need to enter the customer number at this point.
3. The next screen will display your account information. On the bottom right, click on "Logo Library" to add an existing logo to your library.
4. Under "Enter New Logo Information" enter VAHS Shirts for the "Nickname" enter 0817875 for the "Logo Reference Number"
check the "Default Logo" box
enter 4327148 for the "Customer Number"
click on "Add to Library"
5. At the next screen, click on "Done"
6. The next screen will display your account information, click on one of the top links to begin shopping.
7. After you select your items, the site will then ask if you would like to add logos to your garments
select "VAHS Shirt" from the drop down then "Add to Cart" or "Return to Shopping"

You only have to register the logo once.



Engineering Test Pilot The Exceptional Career of John P. "Jack" Reeder

by
Mark Chambers

Read about the Virginia Aviation Hall of Fame's 2005 Inductee John P. "Jack" Reeder's career as a test pilot at NACA/NASA. To order your copy, contact Jen Melton at (804) 222-8690 or vahs@smv.org. \$20 plus tax and shipping.

HELP WANTED!

THE VAHS MARKER COMMITTEE NEEDS SUGGESTIONS FOR FUTURE HISTORICAL ROADSIDE MARKERS. TOPICS CAN BE LOCATIONS, EVENTS OR INDIVIDUALS. THE ONLY STIPULATION IS THAT THE EVENT MUST BE OLDER THAN 50 YEARS. IN THE CASE OF INDIVIDUALS, THEY MUST BE DECEASED.

SUGGESTIONS CAN BE SENT TO W. SCHULTZ AT WSCHULTZ5@COX.NET OR BY PHONE AT 757-258-8875.

Virginia Aviation History Project Report



Sara Parmenter

by Linda Burdette

Sara Lester Parmenter doesn't remember the occasion, it might have been a birthday or some other event, but her father knew she loved airplanes and scraped up the money to give her a ride in a barnstormer's Waco. Mr. Lester couldn't have known then that he kindled in his seven-year-old daughter a passion for aviation that would last for almost eighty years (and still counting.)

Born in Jackson, Mississippi, Sara grew up in Jacksonville, Florida. It was an idyllic childhood, punctuated by that ride in the Waco. But in her teenage years, World War II came calling and Sara remembers when the German U-Boats began patrolling the eastern coast of the U.S. She remembers hearing the thud of the German torpedoes hitting the hulls of the Allied ships steaming out of the port. The next day, the beaches might be covered with the ship's cargo. Sara recalls "If it was what we called a 'banana boat', fruits and vegetables would be all up and down the beach. If they sank an oil tanker then oil would be all over the beach. Also, the beaches were perfect for dropping off German spies at night. They arrested several of them at a house not far from where we lived! It was pretty frightening."

Sara decided she wanted to assist with the war effort but for a 16-year-old, the opportunities were limited. With thoughts of that Waco flight in her mind, she volunteered for the Civil Air Patrol and their Cadet Training Program. Soon she was flying in the front seat of a bright yellow Piper J-3, assisting the CAP in their search for German subs. They operated from Craig Field and their constant harassment caused the German Navy to refer to them as "those pesky little yellow airplanes." One of Sara's favorite memories is when a U-Boat was damaged by a Cub rigged to carry a small bomb between the landing gears. She reports "it wasn't a big enough bomb to sink it but the sub was damaged by it and could no longer submerge. I think the Coast Guard came out and finished it off after taking the crew prisoner."

As the war continued and Sara grew older, she had dreams of joining the WASPs but when the war ended, the WASPs were disbanded and the Civil Air Patrol cut back its programs.

With the war over and her future looming, she decided that medicine was the field for her. She enrolled in the Cadet Nurse Program at Jacksonville's St. Vincent Hospital. In this program, the Government paid for training in hopes that the graduates would join the military but they were not obligated to do so. Sara knew even then that she was willing to enter the military and she enjoyed nursing, but she really wanted to be a pilot.

In the meantime, she decided to capitalize on her nursing education and try for medical school to become a doctor. She wanted to attend medical school by day and work at night, but when she interviewed at Emory University in Atlanta, she was emphatically told that the school workload would be too heavy and if her family couldn't afford the tuition, she shouldn't try medical school. At that point she decided to join the Army, pursue her career, and finally realize her dream of learning to fly.

Her first assignment was Percy Jones Army Hospital in Battle Creek, Michigan. Here she began her civilian flight training in earnest and in the spring of 1949, soloed in a J-3 Cub just like the ones she had co-piloted during her Civil Air Patrol days. (She recently pointed out that she soloed 60 years ago this past April 2009.) She recalls that her salary as an Army First Lieutenant was \$150 a month and that the flight costs were \$3 for the instructor and \$4 for the airplane.

However her flying plans were soon interrupted and she didn't complete her license. The "interruption" was in the form of Dr. Robert Parmenter. Percy Jones Hospital began to accept interns; before that, all the doctors were older, mostly married officers. One day, the young intern, Dr. Parmenter, visited the floor where she was working. She was engaged to someone else at the time, but that didn't last long after she met Parmenter.

When the Air Force split from the Army, she elected to go into the Air Force but Dr. Parmenter stayed with the Army. As one of the first nurses in the fledgling service, she was assigned to help set up a nursing unit at the new hospital at Eglin Air Force Base in Florida and there she and Robert Parmenter were married (despite the fact that her new husband wasn't interested in flying.)

In the early 50's, the Korean War began and Sara's husband was transferred to Germany. Sara applied for an Air Force transfer to Germany but the head nurse at her hospital didn't want to let her go, so she decided that her marriage was more important and resigned from the Air Force to accompany her husband to Germany. She joined the Air Force Reserves and eventually retired with the rank of Major. Understandably flying was very difficult in Germany, which was still recovering from the war and Sara was unable to continue her dream of flying there.

However upon return from Germany, Sara immediately began to pursue her pilot's license. Wherever they were stationed, Sara would join the flying club and continue to work on her flying lessons. In 1956, while stationed at Ft. Knox, KY, she bought into a partnership with a Stinson Voyager and when she left there, she sold the Stinson to her partner. She finally got her license at Ft. Riley in 1960. Because of starts and stops she had accrued 100 hours as a student.

After receiving her license, she purchased her first Cessna 140 and often used her aircraft to fly to her reserve duties. When landing at Forbes AFB in Topeka, Kansas, the air traffic controllers were surprised to have a woman pilot landing. "There was always this long pause on the radio when I checked in with the base controllers in my 140. I guess they weren't used to hearing a woman on the radio in those days."



Sara Lester poses in front of Percy Jones Army Hospital, Battle Creek, Michigan in 1949. Notice that she is wearing her "pinks and greens".

Unfortunately Dr. Parmenter eventually was assigned to a second tour in Germany and Sara sold the first 140 before undertaking the trip, although she does point out that she sold it for \$1,500 which in those days was a lot of money.

One interesting note from that time of Sara's life is her brush with celebrity. Her nephew, Tom Lester, played the role of "Eb" on the CBS TV sitcom, Green Acres, from 1965 to 1971.

One of COL Parmenter's final assignments was at Ft. Lee, Virginia, where he became involved in the North-South Skirmish Association. This group reenacts Civil War skirmishes and does target shooting with authentic Civil War era weapons and ammunition. When the Parmenters were later assigned back to Jacksonville and knew that they were getting ready to retire, their thoughts returned to Virginia. They decided to look for a farm here and when visiting Ft Lee for a skirmish, Sara was reading the paper and saw an ad for 40 acres in Cumberland.

Upon arrival, they were instantly captivated. The farm looked like her Grandfather's farm in Florida. The home was a pre-Civil War house which began life as a log cabin, and the deed can be traced back to a grant from King George. Additions had been constructed over the years and the oak beams were visible on the ceilings throughout. As a matter of fact, they soon found that the ancient wood was too hard for nails. Sara believes one of the pecans is the oldest and largest pecan tree in the Commonwealth of Virginia. It is thought to be one of a group of trees presented to landowners from George Washington. The Parmenters have kept



Sara ready for take-off in her Cessna 140

their home as a working farm, growing their own vegetables and fruit and even raising livestock for meat. For many years she bred and raised Pekingese dogs and also, for a while, peacocks. However the peacocks had their questionable moments. One of these moments occurred when she was working in her yard one day. She fell and broke both bones in one leg and couldn't move. She called and called for help. When her husband finally found her, he said that he'd heard a call like "help, help", but it sounded just like the peacocks, so he didn't investigate.

At any rate, in 1972, as their civilian life began, Sara decided to indulge her flying dreams in earnest.

She bought her second Cessna 140 and has owned that aircraft for 37 years. She traveled the Commonwealth of Virginia, pointing out that "airport hopping is still my favorite thing to do." Sometimes she would just take off and follow a country road to see where it led.

Her husband was, for many years, the Director of the Health Department for a seven county area in Virginia. Before his retirement, she would take him to medical conferences in the 140. She laughs as she recalls landing in her little 140 while other doctors were flying in much fancier and costlier planes. She thought she looked like someone driving a Tin Lizzie in a crowd of Cadillac's. But the other doctors all noticed the little woman flying the airplane.

She also takes regular vacations back to Florida, and at times she's been called upon to avoid weather and hurricanes. One dicey incident was when they were headed to Jacksonville, Florida for a visit. Her husband

noticed that the oil pressure had suddenly dropped. She shut off the engine, called mayday, and asked for the nearest airport. They routed her to Herlong Field. It was late in the evening and there were buildings along Highway 10. For a time Sara was concerned that she would have to land on the highway, but eventually saw the airport and glided to land. In all her years of flying, she's had about 5 emergency landings, but has always been close to an airport and able to land safely.

When asked about the challenges of flying a tail-dragger, she points out that she started with a tail dragger and is used to it. She learned to fly in J3's and Champs. Her experience in airplanes includes the 140, 170's, 150, 152, Stearman, AT6, Piper Cub, Champs, and Piper Supercruiser. She's flown a Comanche, but not solo and has "taken a turn" at flying a Citation, but only with the Pilot in Command closely watching.



Sara with Astronaut Edwin "Buzz" Aldrin at the 2001 Virginia Department of Aviation Conference in Washington, D.C.

Her 140 is more than an airplane. At this point it's an old and well-known friend. She doesn't want to fly or own any other airplane. She knows all its quirks and capabilities. After a recent engine overhaul, Sara kept complaining that the engine didn't have enough power. She knew it wasn't climbing out the way it should. Finally someone else landed at the airport in a 140 with the same engine and Sara insisted that the mechanic compare the engines. Sure enough, it turned out that the Sara's spark plug wires were incorrectly connected. As soon as the connections were fixed the airplane ran just as it should.

She hasn't personally encountered a lot of prejudice against women pilots. She's known a couple of instructors who didn't like women in aviation, but she's mostly ignored them and is quick to say that she's known many more instructors who were very supportive. One she remembers fondly is Jack Cutler, a former OSS member. He was very supportive when he checked her out in the 140 and used to brag frequently about her flying.

She says that the greatest thing in aviation for her is the camaraderie, the people you meet, the aviation family and community. Throughout her years of flying, Sara has made friends all over Virginia and has influenced many to fly. In 1999, she was honored with a Lifetime Achievement Award from the Commonwealth of Virginia Department of Aviation. She was so well known at the airfields in Virginia and North Carolina that she was unofficially known as Virginia's General Aviation Goodwill Ambassador.



Sara with her Cessna 140

But in 2004, the Department of Aviation made the title a formal one when it began the Aviation Ambassador program and asked Sara to appear on its public relations posters. Since that time, Sara has had even more fun traveling the state and

meeting folks. Many airports ask her to autograph her picture on the poster and she is always amazed at the number of young women who want to talk to her about her flying career.

But if you ask her about heroes, she never talks about herself. She will tell you firmly that her heroes in aviation are the World War II fighter pilots. She enjoys reading about them and their exploits in the war.

Sara is nonchalant about her aviation accomplishments. Like so many of the women who've blazed the trail for today's women aviators, she doesn't consider her history as anything remarkable. She is still pleasantly surprised when anyone refers to her as a role model and just relishes the attention she gets from younger pilots. She says "I haven't done anything special. I just found something that I love to do and have done it for a really long time." She doesn't realize how very special that is.

Sources:

Interview with Sara Parmenter, August 27, 2009

Virginia's Ambassador of General Aviation, Carolina Skies Magazine, August/September 2004



VIRGINIA AIRPORTS Vera Foster Rollo & Norman L. Crabill. THE most in-depth historical survey of our Virginia airports, aeronautical events, and the people that make it happen, from the earliest days of aviation in the Old Dominion. Extensively researched and detailed with many never-before-seen aerial maps of airports from the beautiful Shenandoah Valley to the Tidewater area of Virginia. 8 1/2 by 11 paperback. 244 pages and is packed with b/w photos and illustrations. It can be purchased from the publisher for \$25 per copy (U.S.) which includes shipping and handling. Order at Virginia Aeronautical Historical Society, 5701 Huntsman Road, Richmond, Virginia 23250-2416 or call (804)222-8690 or email vahs@smv.org.



Francis Rogallo, inventor of the flexible wing and “the father of hang gliding”, died September 1, 2009, at the age of 97 at his home near Kitty Hawk, North Carolina. Mr. Rogallo’s unique inventions had been the subject of an article in the Virginia Eagles and it is reprinted here in his honor. Born on January 27, 1912, he graduated from Stanford with a degree in Mechanical Engineering and aeronautics in 1935 during what is called the ‘Golden Age of Aviation’. The impact of Mr. Rogallo’s inventions on lightweight flight was so profound that the wings of hang gliders for years were called Rogallo wings and members of the Hang Gliding and Paragliding Association are still called Rogallo members. Mr. Rogallo retired in 1970, and, having met Orville Wright in 1939, he elected to live near Kitty Hawk. At 62, Mr. Rogallo took up hang gliding on the Kitty Hawk dunes and took his last flight there on his 80th birthday.

Rogallo Had A Dream

by Sharon Dillon

Francis and Gertrude Rogallo had a dream. They followed that dream much to the delight of aviation buffs around the world. Francis said, “My intention was to give everyone the opportunity to experience flight first hand.”¹ And, he succeeded.

From his boyhood in Sanger, California Rogallo dreamed of flight. In 1912 he was born to a Polish father and a French mother who ran a hotel. As a child he had plenty of time to observe the birds and dream of flying free like them. He followed his curiosity and received an aeronautical engineering degree from Stanford University in 1935. The following year he was one of only four engineers chosen to work at the National Advisory Committee on Aeronautics at the Langley Research Center in Hampton, Virginia.

Rogallo thought aircraft wings should be able to fold like a bird’s wings. He was interested in the concept of roadable aircraft and thought such a vehicle would be much more feasible if the wings could fold enough that the vehicle could be driven on roads and stored in a garage rather than being towed and stored in a hangar. He did not pursue this aspect of aviation for very long, though he had one model that he drove in parades.

By the end of World War II Rogallo began experimenting with an idea for a flexible wing. However, NACA was not interested and did not allow him to use the 7 x 10-foot wind tunnel where he was section head. They said that he could experiment at home. This actually worked to Rogallo’s advantage because any work done at NACA belonged to the agency. Work done at home belonged to him.

During that time Francis would create various designs and Gertrude would assemble the kites with supplies she had at home. In the meantime Francis rigged up a 36-inch fan in the hallway to produce his own wind tunnel. They tried kites of different sizes and shapes and with different numbers of strings.

The first completely flexible wing was made from Gertrude’s kitchen curtains. Because the material was chintz it was less air permeable than other fabrics. Gertrude added interfacing to make the edges stiff. They and their children (Bobby, Carol, Bunny and Fran) tested these kites at Merrimac Shores, Buckroe Beach and Plum Tree Island. Regrettably, they never kept a log-book of their experiments. Instead Francis kept his notes on

scraps of paper. Early designs had shapes that resembled boat sails. Later models were more similar to parachutes. The flexible wing was a hybrid design.

In 1948 they finally designed and successfully tested a semi-rigid model made of translucent plastic. This design, without any struts or spars, became known as a Flexi-kite. This model was so successful that they applied for a patent. Three years later the patent was issued in Gertrude's name. The patent approval came as a shock to the patent attorney who didn't think the kite would fly. They also invented a gliding parachute about this time.

The Rogallo Foundation



The Flex Wing was really an In-House Program for the Rogallo Family. Frank and Gertrude with three of their children with an early Flex Kite.

For a while the Rogallos made and sold Flexi-kites at Virginia Beach. Eventually, Arnold Clark Company, the maker of Silly Putty, persuaded them to sell their rights to the design. Francis designed a special tube for storing the kites. Models were sold at L.L. Bean and FAO Schwartz. However, the Clark Company could not find a satisfactory manufacturer so the Flexi-kites went off the market. Not all is lost, however. Their granddaughter Carol is a teacher who makes models for gifts and for her students to fly in science class. While they were pleased with this success the Rogallos felt that "toys should copy real thing and not the other way around."²

While the Flexi-kite did not become a best-seller the technology changed aviation. As early as 1952 Rogallo suggested that flexible wings might someday be useful for space commuters. In 1954 he presented this concept to the Air Force Research and Development Command. Shortly thereafter he unsuccessfully submitted proposals to NACA to include parawing research in the budget and to the Institute of Aeronautical Sciences (IAS). Both rejected the idea.

After the Russians (then called the United Soviet Socialist Republic) launched Sputnik I in 1957 NACA gave Rogallo approval to do some wind-tunnel and model testing in the 7 x 10-foot wind tunnel. In late 1958 after NACA became NASA, he presented his results to the Langley Committee on Aerodynamics and others became interested. In 1959 he tested cloth parawings in the 4-foot supersonic pressure tunnel at Mach 2. Other models were tested at altitudes of 150,000 to 200,000 feet at nearly Mach 3 at Wallops Island.

Early space capsules used parachutes to slow entry speed and then landed in the ocean and were retrieved by Navy divers and moved to the ship for transport. In the early 1960s Rogallo proposed that NASA could use a controllable paraglider to recover the Apollo capsules on land. This inflated fabric flexible wing (parawing)

design was tested and finally rejected for both the Gemini and Apollo programs. The idea was to pack the “parawing like a parachute until the spacecraft fell to about 60,000 feet, at which time an elaborate unstowing and unfurling process began. By 20,000 feet if all went well, the descending spacecraft would turn into the world’s heaviest hang glider, suspended under a dart-shaped parawing. The astronauts themselves would then bring the soaring craft down to a landing either on water or on soil.”²²

By late summer of 1959 Warner Von Braun became interested and invited Rogallo to give a presentation at NASA Huntsville. From that time until early 1961 Rogallo was busy presenting his concept to various technical groups including the Society of Automotive Engineers, Ryan Aeronautical Company, North American Aviation and Institute of Aeronautical Sciences.

As 1960 drew to a close Ryan Co. began building a powered man-carrying ultra-light aircraft known as the Ryan Flex-Wing. Rogallo was there to witness the first flight. Then in early 1961 NASA Marshall awarded contracts to Ryan and North American to study the possibility of using parawings to recover Saturn boosters. Later that year Ryan won a contract to perform test-flights on the Flex-Wing. This was later tested at the Langley full-scale wind tunnel. After that research on this simple technology increased rapidly.

By 1963 it looked like parawings would be the retrieval method of the future. In a special ceremony Rogallo gave NASA license to use his designs royalty-free. He said, “We feel confident that the civil and military agencies of the government will carry on this work, and we hope private industry will promote use of the

concept for business and pleasure as effectively as they have for astronautics and military aeronautics.”²² In a separate ceremony NASA presented a check for \$35,000 to the Rogallos for developing the flexible-wing concept.



FLEX-WING INVENTORS NET \$35,000—The NASA awarded Mr. and Mrs. Francis Rogallo of Newport News \$35,000 yesterday for their invention of a flexible wing paraglider. Rogallo said he and his wife Gertrude hit upon the idea while flying kites 13 years ago. A form of their invention is being considered as one of the means to bring the two-man Gemini spacecraft back to earth after an extended orbit. Rogallo heads the tunnel branch of the space agency’s Langley Research Center.

Research moved forward at NASA Langley and among many NASA employees who continued studying the designs on their own time and with their own equipment at the Outer Banks of North Carolina. This study included the concept of a flexible lifting surface to ride frame gliders with conical and cylindrical canopies. NASA was planning to use the technology on the Mercury Mark II, later called Gemini flights. They believed this would provide a controlled glide and a horizontal landing. They were even thinking ahead to space station studies. In mid-1963 NASA made 12 manned flight tests at Edwards Air Force Base with a Parasev (Paraglider Research Vehicle).

Because of the rush to get to the moon the paraglider concept was pushed aside. According to a quote from Richard Hallion, “Eventually, because of poor test results and rising costs and time delays, the idea was dropped from Gemini in mid-1964. FRC engineers and pilots believed that any vehicle so equipped might present a pilot with a greater flying challenge than contemporary advanced airplanes.”²²

By 1964 NASA decided to use water landings for the Apollo spacecraft and the paraglider project was cancelled but research at the Langley Pawing Project Office continued until 1967.

The Rogallos remained committed to the concept and continued research at Nags Head, North Carolina. They began experimenting with aluminum coated mylar in 1963. That didn't last long because some people flying the aluminum coated mylar kites attached tails of the same substance. Occasionally, the kite tails became entangled with power lines causing severe shock to the kite flyer and power outages. They then switched to a coated mylar. The Rogallos were among the first to use the newly developed mylar. When they read of mylar they wrote to the DuPont Company for a supply of it to use in their experiments.

By 1967 the Rogallos had developed a powered delta wing vehicle that was then manufactured by Ryan Company. This was the start of ultralight aircraft that millions enjoy. Then some Australian researchers began to use this technology to develop the hang glider. Francis celebrated his 80th birthday in 1992 by going hang gliding at the Kitty Hawk dunes where the Wright brothers first flew their fixed wing aircraft.

Their technology has led to ultralights, hang gliders, paragliders, delta kites, stunt kites and revolutionized parachutes. The more controllable rectangular shaped parachutes come from their research.

Over the years the Rogallos have received many honors. Among them are:

- induction into the Space Technology Hall of Fame in 1995
- induction into the First Flight Shrine at the Wright Brothers Memorial at Kill Devil Hills, North Carolina
- Smithsonian Air and Space Award in 1992
- A film called *Der Traum des Francis Rogallo* (The Dream of Francis Rogallo) was made in Germany by Charlie Jost
- The Rogallo Foundation was formed in 1992 to support aeronautic research and education and dedication to honoring F.M. Rogallo, inventor of the flexible wing and the "father of hang gliding"
- The Rogallo Foundation Hall of Fame for sports pioneers was established in 1997

Both Francis and Gertrude are still living at their Kitty Hawk home.

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Sharon Dillon is a freelance writer who lives in Williamsburg. She has nine years experience writing for newspapers and regional magazines. Her love of aviation was boosted dramatically during the seven years she worked for the Wisconsin Bureau of Aeronautics as an aviation education outreach coordinator. Her story on VAHS member Buz Rich was featured in the Jan/Feb/Mar 2005 issue of the *Eagles*.

Mystery Plane



New Mystery Plane

So another mystery plane entry fails to stump the membership. The only redeeming fact is that only two names showed up for this one...Dick Hague and Franklyn Wilson. Dick is our winner again. Given Dick's constant presence at the head of the line may mean we'll have to establish a "one win a year limitation"...win he may, but only one prize a year.

The plane in question was the Piaggio/Focke-Wulf FWP.149D. The aircraft was first built and flown by the Italians in 1953 as the P.148 with a conventional landing gear. It used a Lycoming O-435A engine and had airspeed of about 190 mph. After a competition for a trainer for the Luftwaffe (against the Beech T-35) it was selected as the winner despite the Italian pilot making a gear up landing during the competition. There were a total of 262 built. Focke-Wulf built the last 190 under license.

This issue's a/c is another oddity. A purpose built aircraft derived from a drone (target) concept. It had a Wright R-760 and was constructed almost entirely of plywood. Good luck and good hunting. As always, I'm available for responses at wschultz5@cox.net or 757-258-8875



Piaggio/Focke-Wulf FWP.149D

Bill Schultz, Mystery Plane Editor

The
Virginia Aeronautical Historical Society
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